

WHAT IS CLAIMED IS:

1. A transparent scanning light source for a scanner, wherein the scanner has a base frame and a cover and an upper surface of the base frame has a scanning region, the transparent scanning light source comprising:

5 a plurality of lamps, wherein the lamps are positioned outside the scanning region on the base frame;

a light-channeling board mounted on the cover, wherein the light-channeling board includes an illumination section and a support section on each side of the illumination section, a bottom surface of the support section corresponds in position to the lamp so that light emitted from the lamp can pass through the bottom surface into the support section, and underneath the illumination section is an irradiation surface that corresponds in position to the scanning region.; and

a diffuser plate attached to the irradiation surface.

2. The transparent scanning light source of claim 1, wherein the lamps include a pair of parallel tubular lamps and a transformer associated with the parallel tubular lamps.

3. The transparent scanning light source of claim 1, wherein the light-channeling board has an n-shaped cross-section.

4. The transparent scanning light source of claim 1, wherein the illumination section and the support sections of the light-channel board are formed by injection molding.

5. The transparent scanning light source of claim 1, wherein the light source further includes a plurality of reflective plates attached to exterior surfaces of the illumination section and the support sections of the light-channeling board.

6. The transparent scanning light source of claim 1, wherein the light-channeling board is mounted on the cover through a plurality of fastening structures, and the fastening structures between the light-channel board and the cover include latches, tape and screws.

5           7. The transparent scanning light source of claim 6, wherein the fastening structure on the light-channeling board and the light-channeling board itself are formed together as a single piece by injection molding.

10           8. The transparent scanning light source of claim 1, wherein the base frame surface further includes a triggering switch that activates and monitors the transparent scanning light source when the cover is lowered.

9. A transparent scanning light source for a scanner, wherein the scanner has a base frame and a cover and an upper surface of the base frame has a scanning region, the transparent scanning light source comprising:

15           a plurality of lamps, wherein the lamps are positioned on the base frame outside the scanning region;

20           a light-channeling board mounted on the cover, wherein the light-channeling board includes an illumination section and a support section on each side of the illumination section, the support sections prop up the illumination section of the light-channeling board over the scanning region, a bottom surface of the support section corresponds in position to the lamp so that light emitted from the lamp can pass through the bottom surface into the support section, an upper end of the support section has a light-reflecting structure and underneath the illumination section is an irradiation surface that corresponds in position to the scanning region; and

          a diffuser plate attached to the irradiation surface.

10. The transparent scanning light source of claim 9, wherein the lamps include a pair of parallel tubular lamps and their associated transformer.

11. The transparent scanning light source of claim 9, wherein the light-channeling board has an n-shaped cross-section.

5 12. The transparent scanning light source of claim 9, wherein the illumination section and the support sections of the light-channel board are formed by injection molding.

13. The transparent scanning light source of claim 9, wherein the light-reflecting structure includes a reflecting mirror or a triangular prism.

10 14. The transparent scanning light source of claim 9, wherein the light source further includes a plurality of reflective plates attached to exterior surfaces of the illumination section and the support sections of the light-channeling board.

15 15. The transparent scanning light source of claim 9, wherein the light-channeling board is mounted on the cover through a plurality of fastening structures, and the fastening structures between the light-channel board and the cover include latches, tape and screws.

16. The transparent scanning light source of claim 15, wherein the fastening structure on the light-channeling board and the light-channeling board itself are formed together as a single piece by injection molding.

20 17. The transparent scanning light source of claim 9, wherein the base frame surface further includes a triggering switch that activates and monitors the transparent scanning light source when the cover is lowered.